

**ANDRAGOGY VS. PEDAGOGY:
COMPARING ADULT AND
CHILDREN'S LEARNING PREFERENCES**

**A Thesis
Presented to
the School of Education
Drake University**

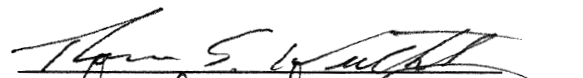
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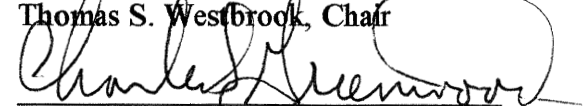
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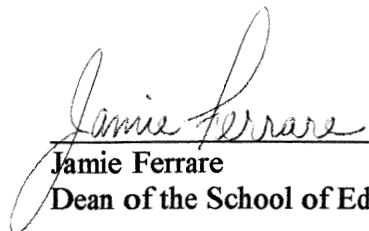
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December 1998

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ANDRAGOGY VS. PEDAGOGY: COMPARING ADULT AND CHILDREN'S LEARNING PREFERENCES

**An abstract of a thesis by
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December 1998
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The Problem. Andragogy and pedagogy have been regarded as two completely separate methods of teaching for many years. After much debate, the two methods have become opposite ends of a continuum used to describe the extremes of interactions occurring between a teacher and students. The purpose of this study was to explore the extent to which there are differences and similarities in adults' and children's learning preferences.

Procedures. The study included both a review of the literature comparing andragogy and pedagogy, results from a questionnaire developed by the author and interviews of adults and children as to how they learn best, their learning preferences, and what they perceive to be effective learning environments and instructors.

Findings. Results of the study found that adults and children prefer to learn in the same general manner. In addition, no significant differences were found in the methods used to teach adults and children. The results indicate that individuals prefer hands-on activities combined with guided practice from the teacher, interaction with others, positive environments, and relevant materials and topics to their lives.

Conclusions. The conclusions of this research are: fundamentally, children's preferences for learning are similar to adults, teaching methods using andragogical and pedagogical approaches are situational and should be used based on the needs of the learner, results neither support nor dismiss Knowles' notion of pedagogy and andragogy serving as two ends of a teaching methods continuum. Results from the sample group indicate children's learning preferences favor andragogical approaches rather than pedagogical approaches and children are more concerned with technology and access to it than adults.

Recommendations. It is recommended that others repeat the study with a larger group of individuals, including greater diversity among the adults' educational level, to further recognize similarities and differences between adults and children and teach adults and children with those methods we would like them to use throughout their lives.

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Chapter 1

INTRODUCTION

Background

Terms such as andragogy and pedagogy have been advanced to explain the differences in how adults and children learn. When addressing methods of teaching, pedagogy is typically thought of as more of a lecture-based approach while andragogy is more of a participative-training approach (Rachal, 1994). The history and further definition of these terms is included later in the paper, but to begin, suffice it to say that andragogy relies heavily upon the learner's motivation to learn while pedagogy relies mainly on teacher-directed learning.

Statement of the Problem

Years of research have given practitioners a multitude of learning styles, preferences, and methods of learning. The author found that research (mainly from Brookfield, 1985, and Knowles, 1984) focusing specifically on how adults learn has resulted in findings showing the main difference between adults and children is the experience which adults bring to the learning environment and the self-direction said to be internal in adults.

Knowles initially based andragogy on the basic assumptions about adult learning including the role of experience, self-directedness, learner's self concept, and motivation to learn. He later changed his assumptions and based his theory on a continuum of learning. This implies that individuals, at times, need direction in their learning and other times can be self-directed. Individuals fluctuate between the ends of the continuum throughout their lives. Educators need to be aware of the changing needs of learners and be able to adapt teaching methods accordingly--without regard to the age of the individual.

Knowles' continuum of learning with pedagogy and andragogy serving as opposites ends of the continuum is worthy of empirical research and serves as the

foundation of this study. To date, few studies have been conducted to determine if Knowles' continuum is evidenced in the learning preferences of adults and children. Thus, while Knowles' notion of a continuum has found general favor within the literature, the intent of this research is to determine the extent to which it, in fact, exists.

Purpose of the Study Research Questions

The purpose of the study was to explore the extent to which there are differences and similarities in the learning preferences of adults and children. The question guiding this research was:

1. Are there differences and similarities in adult's and children's learning preferences?

Questions posed that relate to this main idea include:

- a. How does research define andragogy and pedagogy?
- b. Does this research support Knowles' main assumptions about adult learning?
- c. What patterns or findings result from the author's questionnaire about learning preferences of children and adults?
- d. What role do students and teachers play in learning? What role should they play?

The author created and utilized a questionnaire administered to adults and children followed by an interview to compare their learning preferences, experiences, similarities, and differences.

Significance of Study

This study will further our understanding of the teaching and learning preferences of adults and children. We are currently using two different sets of assumptions to support methods to teach adults and children, andragogy and pedagogy.

This study will determine if there is evidence that a teacher-directed method of instruction (pedagogy) and a learner-directed method of instruction (andragogy) is apparent in the learning preferences of children and adults.

Methods of Finding Research

Research articles were selected and reviewed based on the inclusion of andragogy or pedagogy, reviews of studies on these topics, definitional articles, and those that contain component parts or explanations of the methodologies.

An author-constructed questionnaire was administered to twelve adults and ten children age 11-73 years old. In addition, interviews with the sample were conducted to enable the researcher to further ascertain the learning preferences exhibited by the adults and children.

Definition of Terms

Andragogy: The art and science of teaching adults. Learning that values experience of individuals, is problem centered, is oriented to the learner's social roles and goals, and allows the learner to be self-directed (Davenport, 1987, p. 5).

Pedagogy: The art and science of teaching children (Davenport, 1987, p. 5).

Teaching practices that are teacher-centered and based on the concept of instructor as the expert teaching down to a child. A lecture-based approach to the delivery of instruction (Uehling, 1996, p. 64).

Self-directed learning: A form of study in which learners have the primary responsibility for planning, carrying out, and evaluation their own learning experiences (Merriam & Caffarella, 1991, p. 41).

Limitations

This study represents a first look at this topic by the author. Broader research studies should be done to confirm or challenge found results. A small sample size is considered a limitation as the findings are not generalizable to all settings or individuals.

One drawback of using a questionnaire was not being able to talk with all of the respondents as long as others which caused an inability to probe into some subject's feelings and motivations as deeply as others. Another drawback was the inability to

modify the questions for some of the students or help clarify questions on the questionnaire.

Chapter 2

REVIEW OF THE LITERATURE

Andragogy vs. Pedagogy

By 1997, students 25 years and older made up 45% of the college population compared to 42% in 1987 and 38% in 1977 (Uehling, 1996). Ages range from 17-70+ years and questions have been raised addressing the anxieties and attitudes of all age groups and how to incorporate the different life experiences into the curriculum.

Karen Uehling (1996) writes “60% of my students are still in their early 20’s and most have done something before entering college (work, travel, military service, mission work) and most are working currently--and working hard. They are indeed adults. Students in their early 20’s or even barely 20 are as likely to be rushing from day care or public school to campus and to work as are students in their mid-30’s or 40’s” (p. 62).

With so many differing ages in a classroom, it would seem difficult for educators to know how to address students and on what level they should address them--andragogically or pedagogically. Each instructor handles the classroom differently, but what makes teaching adults different from children? In order to understand or ascertain an answer, one must first understand the terms involved in each method, each method’s history, characteristics of each method, and the arguments for and against using each.

The History of Andragogical and Pedagogical Terms

The term was derived from methods monks used to teach children to read and write in the 7-12th centuries in Europe. It was later developed by 18th and 19th century missionaries and reinforced by 20th century educational psychologists. Instruction was teacher-centered and based on the concept of “teacher as expert teaching down to a child” (Uehling, 1996, p. 64).

Andragogy began in the United States after WWII and was a student-centered and learner-directed approach to learning where the teacher was a guide, coach, or facilitator assisting another adult. However, its history and usage began long before.

Alexander Kapp, a German teacher, introduced the term in 1833 to describe the educational philosophy of Plato, but John Frederick Herbert disapproved of this usage, and andragogy vanished from educational sight for nearly a century. In 1921, andragogy surfaced again in Europe and was widely used in France, Holland, and Yugoslavia in the 1960's. Most people credit Knowles for introducing the term in the United States in the late 1960's; however, he was introduced to the term by a Yugoslavian adult educator, Dusan Savicevic, at a conference held in the summer of 1967. Stephen Brookfield, in 1984, clarified the American history of andragogy by including the fact that Martha Anderson and Eduard Lindeman preceded Knowles as early as 1926. Lindeman laid the framework for Knowles by emphasizing a commitment to a self-directed, experiential, problem-solving approach to adult learning (Rachal, 1994).

Knowles developed his definition of andragogy as a parallel to pedagogy. Pedagogy is derived from the Greek words *paid* (meaning child) and *agogos* (meaning leader of), literally meaning "the art and science of teaching children". Knowles defines andragogy from the following: *aner* (meaning man or adult) and *agogos* (meaning leader of) which would literally translate to "the art and science of teaching men or adults". However, in Knowles definition, he interprets andragogy as the "art and science of helping adults learn" (Davenport, 1987, p. 5). Some of andragogy's problems may be traced to these faulty definitions, according to Davenport (1987). He says, "If pedagogy means 'child leader' or 'leader of children', then andragogy should refer to 'adult leader' or 'leader of adults'" (p. 6). In both cases, the emphasis is placed on the role of the teacher, not the role of the learner.

Components of Andragogy

In a fully adult educational encounter all participants learn, no one member is regarded as having a monopoly on insight, and dissension and criticism are regarded as inevitable and desirable elements of the process. Full implementation of andragogy, or any method, is not possible if the learners are required to be there. Table 1 illustrates the

main differences in pedagogy and andragogy based on Knowles' six assumptions about adult learning (1984).

TABLE 1.

A Comparison of Andragogy and Pedagogy Based on Knowles' Research

Assumption	Pedagogy	Andragogy
The need to know	Teachers determine what the student needs to know.	Adults need to know why they are learning something before they learn it.
The learner's self-concept	The learner is deemed a dependent personality.	Adults are responsible and self-directed.
The role of experience	Experience is devalued.	Experience is valuable, and learners are a rich source of information.
Readiness to learn	Readiness to learn is irrelevant; one learns what the teacher dictates to pass or get promoted.	Learning should focus on the things one need to know to cope with real life situations.
Orientation to learning	Learning is subject-centered	Learning is life-, task-, or problem-centered.
Motivation	Motivation is external, meaning grades and teacher's or parents' approval.	Motivation is internal, including increased job satisfaction, self-esteem, and improved quality of life.

Note. From *A Comparison of Pedagogy and Andragogy*, Uehling, 1996, adapted from Knowles' *Adult Learner*, 1984, p. 69.

Given these assumptions, it is important to further understand the differences between adults and children provided by a review of the literature. Research summarized from ERIC on andragogical methods being superior to pedagogical approaches seemed to show no significant differences in achievement or in regard to how much individuals

learned using andragogical versus pedagogical procedures according to studies completed by fifteen researchers (see Table 2). In fact, Clark found traditionally taught students had significantly higher clinical performance skills (pedagogical method) and higher test scores than the learning contract group (andragogical method). This would suggest that the difference in the two methods may be more in tone and ambiance than in achievement. It quite possibly suggests, according to the author, that andragogy need only be able to compare equally with traditional approaches, not be superior to them.

Educators, researchers, and practitioners question andragogy's theoretical and practical efficacy. Davenport (1987) feels Knowles has perhaps added to the confusion with his paradoxical definitions of andragogy and pedagogy and with his assumptions which lack clarity and solid empirical support. Many have argued the validity of andragogy's "theoretical status, general utility, and how it differed from progressive education" (Davenport, 1987, p. 7). In 1979, Knowles retreated somewhat by viewing andragogy more as an approach or method instead of a theory and by conceptualizing andragogy and pedagogy as a continuum rather than a dichotomy. He stated that there are occasions when andragogy could be used with children and pedagogy with adults. However, he still emphasized that andragogy was generally better for adults and pedagogy for children (Davenport, 1987).

Others entered the debate, including McKenzie and Carlson (1979), who supported Knowles, Lebel (1978) with the term gerogogy, Yeo (1982) with eldergogy, and Knudson (1979) with humanagogy--all terms to define the age of "adult." Rachal, Cournenay, and Stevenson (1983) called for an "end to 'gogymania' fearing an educational taxonomy of infantagogy, pedagogy, adolescagogy, andragogy, and gerogogy, or possibly such specialties as Caucasiogogy or Negrogogy" (Davenport, 1987, p. 8).

Day and Baskett (1982) concluded that:

1. Andragogy is not a theory of adult learning, but is an educational ideology rooted in an inquiry-based learning and teaching paradigm. Though Knowles states that adult education must make optimal provisions for differences in style, time, place, and pace of learning, the client-centered, problem-solving andragogical model that he presents does not do this. It is not always the most appropriate or the most effective means of educating.

2. The distinction between andragogy and pedagogy is based on an inaccurately conceived notion of pedagogy (Davenport, 1987, p. 8).

Hartree (1984) found Knowles' work presented three difficulties for adult educators: confusion between whether he is presenting a theory of teaching or one of learning, the relationship which he sees between adult and child learning, and the ambiguity as to whether he is dealing with theory or practice. She also questions the soundness of the basic assumptions underlying the theory or practice of andragogy. Knowles does not clarify whether his statements are descriptive or prescriptive. Hartree points out that the experience of school has left many adult students with both an expectation of and a "felt need" for dependency and tutor direction. The view of the adult learner as self-directing, then, is often more a pious hope than a description of his or her learning.

Rosenblum and Darkenwald (1983) found that including learners in the process of course planning, diagnosis, objectives, and designs did not result in meaningful differences in either learning or satisfaction.

Conti (1985) indicated that "teacher-centered (pedagogical) approaches were more effective with GED classes which focused on the short-term task of passing the predefined GED examination, while learner-centered (andragogical) approaches appeared more effective with basic level classes and English as a Second Language classes that

TABLE 2.

Summary of Andragogical Studies

Researcher, Date	Group	Assumption Tested	Method Used	Findings
Black, 1989	College level math students	Self-directedness of learners	Learning Contracts	No statistical differences in achievement Age not a variable
Barta, 1989	Adults college keyboarding students	Self-directedness of learners	Brief introduction to course, self-paced and directed learning throughout the semester	No difference in achievement between groups, more errors by SDL group SDL may only be appropriate when students have commitment to learn
Farrar, 1990	Adult students at a community college	Self-directedness of learners	Three groups (concept mapping, journal entries & traditional assignments)	No sign of statistical differences in technical, sensory, formal and expressive qualities of three groups
French, 1984	College-based center for labor studies	Self-directedness of learners	Survey to gain view of perceptions of participants	No statistically significant differences between the two groups
Krom-Braen, 1979	Women in high education settings	Differences in types and intensity of problems of returning to school	Mailed questionnaires	Frequency of personal-psychological problems were more frequent than system-procedural problems
Stevens, 1985	Dental hygiene students	All assumptions vs. pedagogical assumptions	Methods of pedagogical and andragogical teaching for two separate groups	No significant differences between the two groups
Clark, 1991	Clinical-laboratory students	Assumptions of andragogy vs traditional teaching	Learning contracts	Traditionally taught students had higher performance skills and test scores than the learning contract group

Table 2 (continued):

Summary of andragogical studies

Researcher, Date	Group	Assumption Tested	Method Used	Findings
Reinhardt, 1976	RN's receiving continuing education	All andragogical assumptions	Knowles contract vs control group with individual study guide	No significant difference between the two groups
Rosembloom & Darkenwald, 1983	Nursing supervisors	All andragogical assumptions	Same instructor, different approaches to teaching the class	No significant difference between the two groups in achievement or satisfaction Authors did feel that student participation could yield higher achievement and satisfaction
Cross, 1988	Health care patients	Self-directedness of learners	Learning contracts	No significant differences in any of the four groups
Cartor, 1990	Super-visors in utility company	Self-directedness of learners, cognitive gains, satisfaction	Andragogical & pedagogical teaching methods	No significant differences in personality measures or training learned
White, 1988	Adults in a recertification program	Effectiveness of teaching andragogically	Two groups--lecture based and activity based	Results on testing higher with lecture based group
Anaemena, 1985	Three groups of Nigerian college students	Andragogical vs. pedagogical teaching and achievement of students	Lecture based lesson plans written program sheets	No significant differences between the two groups
Saxe, 1986	Volunteer adult in reading an annual report	Based on interaction among peers (high, moderate, or low) or individualized performance	4 groups with varying levels of interaction while learning a topic	Moderate levels of interaction positively and significantly affected the learner's achievement

Table 2 (continued):

Summary of andragogical studies

Researcher, Date	Group	Assumption Tested	Method Used	Findings
Beder & Carrea, 1988	Volunteer teachers in large public schools	Impact of andragogical teacher training on attendance and teacher evaluations of adult students in their classes	3 groups with varying levels of andragogical teaching methods	Results indicate positive effects on attendance to those classes but not achievement
Madriz, 1987	Public school teachers	Achievement, level of satisfaction, and application of material learned	Divided into two groups (highly involved learners vs not involved), questionnaire after 2 months	Satisfaction and application showed statistical significance favoring the andragogical group, but achievement showed mixed results
Ogles, 1990 and Familoni, 1991	Adult beginning readers	Self-directedness of learners	Learning contracts	No difference in dropouts but contracted students attended longer and more hours per week

Note. From Research on Andragogy, Rachal, 1994.

were aimed at a long-term process of acquiring skills” (Davenport, 1987, p. 10). This led him to ask the question not of which style is more practical, but when is each style most appropriate?

Knowles (1979) changed his views and said, “I am not saying that pedagogy is for children and andragogy for adults, since some andragogical assumptions are realistic for children in some situations. And I am certainly not saying that pedagogy is bad and andragogy is good; each is appropriate given the relevant assumptions” (Davenport, 1987, p. 11). The central thrust of his work portrays andragogy as the most appropriate approach for most adults in most learning situations.

Goodman (1982) said andragogy and pedagogy should be viewed as different characteristics of methodologies rather than as opposites. Elias (1979) concluded that andragogy and pedagogy present two different approaches to the education of children and adults--the traditional and the progressive. In their extreme forms, he rejected both of these approaches in favor of an approach that uses both experience and subject-centered curriculum, both present and future-oriented.

In 1981, Cross (also discussed by Harris in 1989, Knowles in 1984, and Pratt in 1988) agreed that the current position seems to be that andragogy consists of a different set of assumptions from pedagogy but that it is neither superior or inferior to more traditional education.

Other arguments against andragogy include how learning is evaluated and measured. Andragogy favors portfolios or other non-threatening measures as evidence of accomplishment, but Carter (1990) notes, “to rely upon self-reported learning might provide little or no accurate information regarding the effectiveness of the program” (Rachal, 1983, p. 23).

Pratt (1988) said recent debate has abandoned the andragogy vs. pedagogy dichotomy that claims that teaching adults is significantly different from the teaching of

youths. And finally, Rachal (1983) stated that “we oversimplify and ultimately mislead ourselves if we treat the two approaches as neatly dichotomous and mutually exclusive” (Delahaye, Limerick, & Hearn, 1994, p. 187).

With many arguments against andragogy and little empirical data to support the assumptions, Knowles eventually abandoned the connection of andragogy with adults and pedagogy with children and said andragogy is a student-centered approach while pedagogy is a teacher-directed approach. This represents a continuum of assumptions to be determined in terms of their rightness for particular learners in particular situations. The value of the andragogical/pedagogical distinction is that it highlights the importance of the teacher’s attitude toward students. Figure 1 shows a continuum of direction and support for andragogy and pedagogy.

New Definition of Andragogy

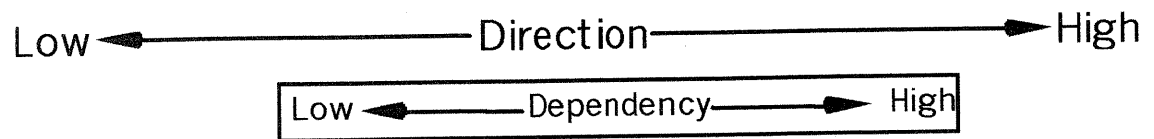
Andragogy and pedagogy are poles of a continuum (refer to Figure 1). Pedagogy is a subject-centered orientation to learning and andragogy is a life-centered, task-centered, or problem-centered orientation to learning. Other variables, like problem-solving orientation, institutional constraints, certification constraints, relevant learner experience, and learner motivation could each be placed on a continuum, and the degree of their presence or absence might help determine whether andragogical methods might or might not be suitable.

An individual’s location on the continuum is confined to a one-dimensional line. The learner’s development is based on the learner’s learning maturity, which consists of past learning experiences, expectations, attitudes to coming events, and prior knowledge (Stuart & Holmes, 1982). Described by Smith and Delahaye (1987), learning maturity is the “amount of knowledge the learner already has in the subject area, level of interest in and need to acquire the learning, the degree to which the learner is willing to accept

responsibility to learn, and the degree of skill in learning the learner possesses”
(Delahaye, Limerick, & Hearn, 1994, p. 195).

FIGURE 1.

Continuum of Direction and Support



From Pratt, 1988, p. 167. Represents the continuum of direction and support, also what Knowles agreed with later about the continuum regarding andragogical and pedagogical approaches to teaching.

Many definitions of andragogy have caused confusion and resulted in a wide variety of results in studies. There is no consistent definition or usage of methods until redefined by Davenport (1987). He feels that there is “some merit in andragogy if the term could be redefined, conceptually clarified, and empirically based” (p. 12). He has difficulty with the literal definition of the word. Instead, he suggests that pedagogy be defined as “the art and science of teaching and *facilitating the learning* of children” and that andragogy be defined as “the art and science of teaching and *facilitating the learning* of adults” (p. 13). These definitions would be more consistent with the findings of many authors in that the “selection of learning approaches has little to do with age but a lot to do with other variables such as learning style, type of content, goals of instruction-learning, and even gender” (Davenport & Davenport, 1985a). Davenport also suggests further studies on the assumptions regarding adult learning and feels that further empirical data would help base andragogical theory on facts rather than “faith, fad, or fancy”. He also would like to include the many similarities between child and adult education while providing a place for the discovery of differences. We must deal with developmental roles and stages that have implications for education. Implications related

to children or adolescents would fall within the realm of pedagogy while implications related to adults would fall within the realm of andragogy.

Andragogy has the potential of serving as a unifying framework for adult education if definitional problems can be worked out and if old and new assumptions are rigorously tested before possible incorporation into a larger theory.

Learning

With the studies supporting or disagreeing with the assumptions of andragogy and a proposed new definition of andragogy, many looked into how children and adults learn specifically. The following information separates what we know about how children learn, how adults learn, and how individuals learn in general.

How Children Learn

It is the author's contention that learning is fun for children at early ages because they decide what they want, and when and how. If one watches a toddler, the toddler does not need any special curriculum, book, or method of learning. The world is a schoolhouse and the student is learning as much as possible, with little or no direction from an adult--truly self-directed learning. When the child needs help or clarification, he or she will look to an adult for assistance. This is the method in which most individuals are acclimated to the world.

Eisemman (1990) suggests that children are naturally curious and are internally motivated to pursue learning but that they are socialized to be dependent and passive by the way much of their educational experience is structured. Others agree with Eisemman.

Schank (1995) feels educators should redesign the educational system to focus on the child's interests. He believes that almost any interest a child has can be utilized so that it relates in some way to what the school wishes to teach. He feels once a child is ready to move to the next interest, he or she should have that freedom and the responsibility of relating that interest to the information to be learned is the teacher's.

McDade (1995) feels all pedagogies have appropriate places in a curriculum, and a complete curriculum should include a wide variety of pedagogies to appeal to the learning styles of all students. Trying to connect with the “real world” has been the goal of many educators recently. Case studies have been one successful method of helping students relate learning to events outside of school.

The use of case studies allows students the opportunity to identify objectives and goals for key characters by putting themselves in the shoes of those characters; thus, incorporating the andragogical method of life-centered problem-solving into the curriculum (McDade, 1995). Instructors use case studies to foster critical thinking and reflection so students learn how to learn on their own. This closely ties to the goals of adult education making a strong statement of support for teaching children as we wish them to learn as adults.

Education has been criticized for making grades the spurious goal that places emphasis on memorization of meaningless facts. Natural learning goals that have to do with increasing one’s power to operate successfully in various endeavors get replaced with artificial goals that have to do with acceptance and approval.

Knowing what we know about young children’s learning, one might question if the educational system is making children externally motivated by providing stickers, grades, prizes, etc. throughout their education. It seems logical that as adults we continue to expect the same extrinsic rewards (coffee mugs, bonuses, trips, etc.) as in school and that the goal is not true learning, but rather acceptance, achievement, and/or approval.

So, what do we know about how adults learn? What makes them different from children?

How Adults Learn

The ideal adult learning situation, according to Knowles (1984), is a group small enough for all participants to be involved in every aspect of planning every phase of the

learning activity. The teacher, of course, retains responsibility for facilitating the planning by suggesting procedures and coordinating the process.

Knowles had four main assumptions which andragogy is based on: adults are self-directed learners, experience becomes an increased resource for learning, one's readiness to learn is increasingly oriented to the individual's social roles, and individuals have a tendency to become less subject-centered and increasingly problem-centered in regard to learning (1984).

Brookfield (1985) has six critical practices he feels must be included in successful adult education encounters: participation must be voluntary, statements which belittle others or which involve physical or emotional abuse are excluded, education is collaborative, *praxis*-the art of reflection after an activity-is included, adults are prompted to consider ways of thinking and living alternative to those they already inhabit, and to have adults see themselves as proactive, initiating individuals engaged in a continuous re-creation of their personal relationships, work worlds, and social circumstances.

In an andragogical approach, instructors create a classroom that presumes autonomy, self-directedness, and motivation to solve problems. The Knowlesian model uses a learning contract in which learning objectives, strategies, resources, evidence of achievement, and criteria for evaluation are collaboratively determined by the learner and facilitator.

Conflicts arise because the dependence of the pedagogical model violates adults' need to be self-directing. According to andragogical assumptions, motivation to learn is internal for adults. Based on research by Delahaye, Limerick and Hearn (1994), there are four stages of learning and degrees of which pedagogy and andragogy play a part in each stage. In stage 3 (low pedagogy/high andragogy), learners are rebelling against the structures of pedagogy but still feel insecure when faced with the prospect of taking responsibility for their own learning. Many adults in this stage do not want to be treated

as if they were children, but they do not have the skills to be totally self-directed.

Students prefer general constraints that provide guidance rather than control.

Merriam and Caffarella (1991) differentiate between children and adults by stating a “child’s life situation is characterized by dependency upon others for his/her well-being. Adults, on the other hand, are adults because they have assumed responsibility for managing their own lives” (p. 71).

Brockett and Hiemstra (1991) realize that adults have varying degrees of willingness or ability to assume personal responsibility for learning. Although adult students bring a desire for self-direction to the classroom, they often cling to the kind of dependency on authority that they remember from pedagogical methods used in their youth. Adults are sometimes more dependent on the teacher for evaluation than traditional age students. Within a single learning project, they may alternate between other-and self-direction. Adult educatedness should be regarded as a variable that can be realized to a greater or lesser extent at different times, in different settings, with different groups of learners.

“Adults are characterized, by educational research literature, as highly motivated, having practical reasons to learn, and bringing to the classroom a wealth of life experience” (Uehling, 1996, p. 61). In any group of adults, a wide range of skills, knowledge, and experience can be found.

Adults can’t be forced to learn and those who see a need or have a desire to know something new are quite resourceful. Adults will learn something to help them through a transition in their life (before, during, and after it occurs). They prefer single-concept, single theory courses that focus on applying the concept to relevant problems. In fact, 80% of adults in one study cited the need to learn applications and how-to information as their primary motivation for involving themselves in a learning project (Zemke & Zemke, 1995).

Adults have “personal maps of reality” in their heads used to organize information and experiences (Zemke & Zemke, 1995) and should be able to place new information on the map. Once new information has been learned, practice needs to be immediate and repetitious for a skill to become part of an adult’s behavior. If a new skill is not used, it can be forgotten rather quickly. However, in most training sessions or formalized learning situations, practice and repetition are not part of the curriculum. Information is given and then often not used by the participants or sufficient feedback and support are not given to implement the information or ideas into their settings (Feuer & Geber, 1988).

In an article written by Lorena Lanese (1983), she states five strategies used in successful training programs. These include recognizing individual differences in adult learners, creating positive environments for adult learning, personalizing adult learning needs, using adult learners’ experience and formalizing the use of practice in training. To gain from training, adults need to feel free to make errors. Adults tend to take errors personally and let them affect their self-esteem. Because of this, they tend to take fewer risks. “Training departments are becoming more aware of adults’ fear of failure and are taking this into account in their training programs. Companies do want and need successful learners” (Lanese, 1983, p. 16).

Adults prefer activities that are realistic and involving, that stimulate thinking, and that have some, but not too much, challenge. They are not used to sitting for extended periods of time, and their needs and interests continually change, as well as their values. It is believed that their identities are more firmly grounded in their lives outside of school settings than the identities of most traditional students.

Smith (1982), in comparing the differences between adults and children, found that the adult’s fund of past experience brings about a learning process that focuses on modifying, transferring, and reintegrating meanings, values, strategies, and skills, rather than forming and acculating as in childhood.

Imel (1994) suggests ways to create a supportive and partner-like environment with adults. She states that the instructor must capitalize on the first session to set the tone, incorporate group work, break traditional classroom routine, use humor, and support opportunities for individual problem solving.

This seems to be an appropriate environment for teaching any individual, not only adults. In the public school system, most instructors typically spend the first day having students sit passively and telling them rules or handing out textbooks. Knowles cautions that “adults confronted with a classroom and 30 chairs facing forward know exactly how to act; like bored 12 year olds. Twelve to 18 years of pedagogic conditioning can do that to you” (Zemke & Zemke, 1995, p. 33). It is clear that the system is creating students who cannot be problem-solvers, be self-directed, or comfortable directing their own learning. It should be the responsibility of educators to teach differently to ensure that all individuals become creative, problem-solving, self-directed individuals. It is the author’s contention that this philosophy is very different than what currently exists in many schools today.

Brookfield (1985) states that unless an external source places before us an alternative way of thinking, behaving and living, we are comfortable with the familiar value system, beliefs and behaviors. This has happened in education for many years.

How Individuals Learn

Merriam and Caffarella (1991) say that while self-actualization is the primary goal of learning, there are other goals including:

- The discovery of a vocation or destiny
- The knowledge or acquisition of a set of values
- The realization of life as precious
- The acquisition of peak experiences
- A sense of accomplishment
- The satisfaction of psychological needs

- The refreshing of consciousness to an awareness of the beauty and wonder of life
- The control of impulses
- The grappling with the critical existential problems of life
- Learning to choose judiciously participant's own goals and objectives (p. 133).

Optimal learning takes place when people want to do something and get the information they need to accomplish their purpose. Sorohan (1993) believes that knowledge isn't something we "pour from one vessel (a teacher) into another (a student). Our natural drive to learn thrives when we can direct our own learning, share knowledge, and emulate experts--and make mistakes" (p. 48). He states the following about learning:

- We learn best when we direct our own learning
- We learn best in context so it should be linked directly to work
- We learn from each other so we should work collaboratively and communicate freely
- We should learn to capture what we know and share it with others (continually creating knowledge)
- We learn unconsciously so we should learn how to recognize and question our tacit assumptions (p. 48).

Many schools continue to stress teacher-delivered instruction, rote memorization of facts and rewards for right answers. Corporate training programs stress short-term activities, trainer-led instruction, and skills transfer (Zemke & Zemke, 1995).

The framework for much learning has been stimulus-response or learn this information: do this exercise. The problem with this is that most heads do not work this way. The things you remember are what you use to make the interconnections to help you retain new information learned (Sorohan, 1993).

There is a “window of opportunity” in which we need to learn something new or different (Zemke & Zemke, 1995, p. 32). It applies not only to motivation, but the ability to retain what they learn. If students (of any age) acquire a new skill and can’t practice it, it will quickly fade. Practice reinforces skills. Practice can link previous skills with new ones and practice should be built into the program. Companies, and schools, don’t consistently make time for systematic follow-up after initial training/instruction to insure that practice opportunities are available and instituted.

Zemke (1995) writes that with the presence of an instructor/authority figure, many participants are reluctant to share ideas, feelings, confusion, and annoyance with the group. Often, participants are hesitant to try out new and untested skills in front of others. Small praxis teams that practice, reflect, and try again can overcome this reluctance to risk. Plenty of people learn well through non-human media such as books, television, computers, and other solitary media and most adults prefer straight forward how-to content. New or radically different ideas must be explained repeatedly and in different ways before they will be understood and accepted.

To help others organize and integrate information, Zemke (1995) suggests presenting one idea at a time, summarizing frequently to facilitate retention and recall, and mastering one element before moving on to the next. In doing so, the participants will feel more comfortable sharing, experimenting, and exploring new options in learning. While instructors play a role, learning is affected by how closely it is related to the participant’s own goals and objectives. This helps individuals get to the desired learning goal of becoming self-directed learners. However, self-directed learning may only be appropriate when there is some indication of the student’s own commitment to learn. This is not always the case in educational settings.

The chief characteristic of self-directed learning is that the learner is wholly in control of the learning process planning, carrying out, and evaluating learning. This idea is incompatible with the formal educational settings. Jarvis (1990) believes self-direction

may be the exception rather than the rule. Some people are or are not self-directed learners and can or cannot be depending on the situation.

The assumption that self-direction, individualization, and autonomy are marks of adulthood is also being challenged by research on gender and cultural differences, from which is emerging support for connectedness, interdependence, and relationships as equally valid ways of thinking and learning (Caffarella, 1993).

Brookfield (1985) states that another assumption regarding learning is that it is a “joyful, wholly fulfilling experience in self-actualization, in which educator intent and learner needs are matched in a marriage of perfection” (p. 44). This is not always the case, however. Table 3 represents Grow’s different stages of the self-directed learning model.

At any given time, an individual can fluctuate between stages. “No act of learning is fully self-directed if this is taken to mean that the learner is so self-reliant that he or she can exclude all external sources or stimuli,” (Brookfield, 1986, p. 48). The table provides a guide to allow individuals freedom to take control of their learning if they are indeed ready and willing to do so.

Teaching

How we teach adults differently than children

Instructors who base their courses on andragogical assumptions respect learners and their experiences, respond to students’ own perceived needs for learning and explain and justify procedures that learners may question.

Merriam and Caffarella (1991) assert that adult learning in formal settings, for the most part, is still instructor designed and directed. In fact, information summarized in ERIC research (1989) found that even those educators who say they believe in using an

andragogical approach do not necessarily use a different style when teaching adults.

Studies have shown that even though teachers understand the andragogical approach to teaching and learning, they continue to use pedagogical methods.

TABLE 3.

Grow's Staged Self-directed Learning Model

<u>Stage</u>	<u>Student</u>	<u>Teacher</u>	<u>Examples</u>
1	Dependent Coach	Authority, immediate feedback	Coaching with drill; informational lecture; overcoming deficiencies and resistance
2	Interested	Motivator, guide	Inspiring lectures plus guided discussion; goal- setting and learning strategies
3	Involved	Facilitator	Discussion facilitated by teacher who participates as equal; seminar, group projects
4	Self-directed	Consultant, delegator	Internship; dissertation; individual work or self-directed study group

Note. From Grow's Staged Self-directed Learning Model, 1991, in Delahaye, Limerick, & Hearn, 1994, p. 197.

tool. The teacher presents the lesson plan, students pay attention, are active, and react to what is presented. The teacher reinforces this behavior with external reinforcers such as praise, prizes, or displaying work (White, 1990).

White (1990) found procedures used by a majority of teachers in a survey of 455 graduate students showed that the majority of the time, the teacher presented information in a direct delivery system. If students were active, and reacted correctly, the teacher reinforced the student by praise, grades, gold stars, and prizes. The teacher's goal for the student was correctness of response or high test scores for knowledge. They did not test for thinking either convergent, logical thinking or divergent, creative thinking.

Although this sample of graduate students recognized the components of pedagogy in social learning and information systems theory, they still adhered to a Skinnerian theory of 30 years ago. Teachers of today reflect the theory and methods of their teacher-training programs (White, 1990).

Some believe that adult education is essentially the same process as education generally and therefore, does not require a separate teaching approach; that is, all good teaching, whether for adults or children should be responsive in nature.

Many adult educators also do not believe that they have a role in helping adults engage in critical reflection and consequently, never operate in the transformative domain. Those who do, however, perceive teaching adults as different from teaching children.

According to Imel (1995), adult learners expect certain characteristics from effective instructors. The six attributes that are most frequently mentioned are as follows:

- to be knowledgeable
- to show concern for student learning
- to present material clearly
- to motivate
- to emphasize relevance of class material

- to be enthusiastic (p. 4).

Brookfield (1985) stated that, “It is not enough for educators to say to learners ‘do what you want, learn what you want, in however manner you wish’” (p. 49). Adults should not feel so safe (in an environment) that they do not question their current assumptions or are not challenged in other ways. Instructors need to balance being friendly with challenging learners (Rogers, 1989).

Instructors also need to be able to determine appropriate ways of evaluating learned information. In regard to how achievement or growth is measured in adult learning environments, Merriam and Caffarella (1991) believe that learning by participants is often assumed rather than overtly measured.

If adults are tested or know that a test is the measure of their achievement, then the goal of training can become passing the test rather than acquiring the skills. Educators should be aware of the adult’s apprehension and need for a successful learning experience. An alternative to testing would be demonstrating identified skills that can be more useful than formalized testing. This also applies to children. Post-secondary institutions have set up continuing education requirements for children based on test scores, not what skills one has acquired. This makes it difficult for individuals who do not test well to advance in certain areas, get scholarships, or be viewed as intelligent by many academic standards when compared to others. It is interesting that we value skill development in adults but not in children.

How we should teach individuals

Educators try to find solutions to the current underachievement of students by “finding the right teaching methods, strategies, or prepackaged curricula that will work with students who do not respond to so called ‘regular’ or ‘normal’ instruction” (Bartolome, 1994, p. 174). The “one size fits all” instructional recipe is wrong for most learners. This is the assumption that instructional methods that are deemed effective for

mainstream populations will benefit all students, no matter what their backgrounds may be.

It is important that educators not blindly reject teaching methods across the board, but that they reject uncritical appropriation of methods, materials, curricula, etc. Educators need to reject the present methods fetish so as to create learning environments informed by action and reflection (Bartolome, 1994).

In many cases, teaching is a direct presentation of special curriculum and the direct reinforcement of students' correct responses to the questions of the teacher. White (1990) says most teachers' perceptions of teaching is that it is a "collection of methods and practices which one can find in a book or by listening to the advice of experienced teachers."

The author believes instructors need to change this philosophy and make students accept the responsibility for learning. Teachers should no longer be perceived as cognitive stuffers of information and skills. Teachers should no longer be held accountable as the only teaching agent in students' learning and whose pedagogy is the delivery of reinforcement for "correct" behavior. Students must be self-motivating and self-regulating if instruction of quality is to occur (White, 1990).

An instructional designer's job, then, is to make learning fun that means that students will enjoy what they are doing. If the instruction is designed correctly, students will learn. Regarding laughing and having fun learning, Rao (1995) says, "as the same ideas percolate through our educational bureaucracy, maybe someday, kids will actually look forward to learning at school" (p. 48).

Individuals learn when they see it as relevant to their lives and are motivated by the promise of increasing or maintaining their sense of self-esteem or pleasure. Instruction for any group of students needs to be tailored or individualized to some extent. Effective learning engages both head and hand and requires both knowing and

doing. It is important to practice skills or information and continually reflect upon what one has learned.

The practice of skills or information seems to be one of the weakest links in company training programs--and almost every educational setting. Sorohan (1993) says that "intelligence and expertise are built out of interaction with the environment, not in isolation from it" (p. 47). Researchers from the Institute for Research on Learning in Palo Alto, CA note that "taking the worker out of the context of actual work practice and into a white laboratory or a gray-green training classroom is most likely not the optimal way to ensure that learning takes place" (p. 48). Practice similar to "real world experience" must be an integral part of any learning situation.

For instructors to ensure equitable learning environments, Imel (1994) suggests they:

- Consider their attitudes toward and knowledge about the variety of people they teach
- Have a professional responsibility to accept every learner as of equal worth regardless of race, gender, ability, or background
- Give examples and images which reflect and acknowledge the diversity of learners and their experiences
- Recognize that change and development are possible for all people and that their role is to assist the process in all learners (p. 4).

Merriam and Caffarella (1991) realize that although instructors may wish to be more flexible in their approach, they are still influenced, and in some cases bound, by the institutional contexts in which they work.

Instructors need to teach learners to approach/view problems from many perspectives. Success in the Information Age turns on the ability of workers to generate and use knowledge to foster continual improvements. This aspect is essential because it is not possible to teach workers clear-cut rules for every task. Individuals must learn to

work with others of varying ages. Uehling (1996) states that “mixtures of ages from 18-65 years adds a quality of richness to each of our lives” (p. 62). This encounter can be mutually beneficial as each confronts stereotypes of the other and learns from the other. Input from all age groups helps to bring the subject matter into better focus.

The learner is neither independent nor dependent, but rather interdependent, forming new understandings through dialogue, feedback, and reflection with fellow learners and facilitators. Table 4 displays instructional situations based on the direction and support needed by the learner.

TABLE 4.

Level of Direction and Support Needed by Learners

3. Learners need support but are reasonably self-directing: Learners have sufficient experience and information to decide what is to be learned and how, but lack motivation or confidence. Learner-directed	1. Learner needs both direction and support: Learners lack competence and either commitment or confidence. Teacher-directed
4. Learners are at least moderately capable of providing their own direction and support: Learners are willing and able to take responsibility for all instructional functions. Learner-directed	2. Learner needs direction: Learners lack competence in designing the instructional process but lack neither commitment nor confidence. Teacher-directed

Note. From Instructional Situations Based on Direction and Support Needed by Learners, Pratt, 1988, p. 167.

Individuals change from needing much direction to very little, if any, direction in learning depending on the situation. It is up to the instructor to be able to recognize and support the needs of the learners. According to the individuals involved in the author's

research, pride, self-esteem, and love for students is what characterizes the learning environment.

Chapter 3

RESEARCH INFORMATION

Research Questions

In developing a research questionnaire, the author returned to the questions that guided this paper:

1. Are there differences and similarities in adult's and children's learning preferences?

Related questions included:

- a. How does research define andragogy and pedagogy?
- b. Does the author's research support Knowles' main assumptions about adult learning?
- c. What patterns or findings result from the author's questionnaire about learning preferences of children and adults?
- d. What role do students and teachers play in learning? What role should they play?

Previous discussion answers the first question regarding research's definition of andragogy and pedagogy. Knowles combines the two methodologies and concludes that the two are related to one another but are considered separate ends of a continuum. The other questions are addressed as follows based on the author's research findings.

Instrumentation

Two methods for collecting data for research included a questionnaire administered to participants (see Appendix A) and follow-up interview with each participant. The rationale for using the questionnaire was to provide consistent questions for the individuals in the study. The time required to collect initial data was much quicker and useful in allowing participants time to organize their ideas and comments. A questionnaire typically has set answers to choose from, but in the author's research, the instrument used consisted of eight open-ended questions in which the respondents drew from their own educational backgrounds. This did not allow for quantitative data to be

collected but rather qualitative in the form of themes and patterns of responses given by the participants.

The questionnaire consisted of the following statements/questions:

1. Describe the best learning experience you've had outside of school.
2. Describe the best learning experience you've had in school.
3. Describe the characteristics of the teacher who would be best for you.
4. Describe your ideal (best) learning environment (what would it feel like, look like, etc.).
5. Describe the characteristics of a teacher who would be the worst for you.
6. Describe the worst learning environment for you.
7. What is the best way for you to learn new information?
8. Describe a situation where you had to learn something new. How did you go about learning the new information?

All questions in the questionnaire related to the original question regarding similarities and differences between adults and children.

Data Collection

All questionnaires distributed were returned to the researcher. The author then used an interview process to discuss the responses on the questionnaire with the respondents. The interviews were effective because they allowed the respondent to give more information and clarify any vague statements or comments. Much of the information in the interview would not have been obtained on the questionnaire due to space constraints, vagueness on the part of the respondent or the author's interpretation of their responses. Possible factors influencing data collection could have been the researcher's misinterpretation of responses or leading responses by participants. Anonymity cannot be provided for the respondents that could influence the responses given. However, rapport was built between the interviewer and all respondents prior to

the interview and the author feels that most answers were not influenced by the author or feelings of fear in having someone else learn personal information about them.

Description of the Population Studied

Twenty-two individuals completed the questionnaire and were interviewed ranging in age from eleven to 73 years. Of the 22 individuals who served as the sample for the study, 12 were adults ages 23-73 years and ten were children ages 11-18 years. The children represented different school settings (both urban and suburban), socioeconomic backgrounds, and ethnicities. The adults were all middle-class, educated individuals which would be considered one limitation of the study. All of the adults surveyed had at least a four-year college degree except one who had vocational training beyond high school. This may have some effect on the expectations one has of a learning environment or the attitude (generally positive) toward learning versus someone who had not had such a positive experience. An individual with a negative experience might have different responses to the questions than an individual who sees education as a generally positive experience.

To generalize similarities and differences, one would have to work with a much larger sample; however, many patterns and themes were extracted from the responses given by the sample in this study.

Data Analysis

Information was gathered through an open-ended questionnaire and personal interview held with each participant. The responses to each question were recorded, tallied, and analyzed in order to extract themes from responses given by all individuals. The author searched for trends and patterns which developed as a result of the responses given to compare adults' and children's preferences in learning and teaching.

Chapter 4

FINDINGS

Findings

A brief summary of the patterns and trends found in gathering data from the questionnaire and interviews are as follows. For further listing of individual responses, refer to Appendix B and Appendix C.

1. *Describe the best learning experience you've had outside of school.*

When asked to describe the best learning experience one had outside of school, individuals of all ages had difficulty relating learning to anything outside of the traditional educational setting. Both adults and children tended to relate a story that tied with formal training in some way. Examples included traveling with a college class, learning a language but taking a class initially to learn it, or working with other people in a school related setting. Many of the experiences dealt with social and emotional growth rather than academic such as working with a parent, experiencing racism, or learning to take criticism from others.

Elements that seemed to add to the positive experience were hands-on learning activities or working with another person who is significant in one's life. Children discussed working with parents, coaches, or friends (when learning something new) as their best learning experience, while adults discussed families, visiting other countries, and work-based experiences as their best learning experiences.

2. *Describe the best learning experience you've had in school.*

When asked about their best learning experience in school, children and adults consistently reported hands-on activities where they were able to choose the topic as the favorite learning experience. This is not to say that they had no direction from a teacher,

however. Both groups had a general direction in choosing a topic and then had autonomy in how the final product was created or achieved. Again, no adult stated a specific academic lesson or concept but spoke in generalities about classes or teachers. A few of the children gave a specific example of a lesson learned in school such as climbing a rope in PE, physics labs, or learning to work with the computer, but most of their statements were general and not specific to a given lesson or concept. Many connected learning experiences with a teacher who was important to their learning rather than a specific experience which leads to the next question regarding characteristics of a teacher who would be best for them.

3. *Describe the characteristics of the teacher who would be best for you.*

Adults and children had almost identical answers when asked to describe the characteristics of a teacher who would be best for them. The difference between the two groups was that adults require or expect the teacher to be knowledgeable in the subject area, while children, as a whole, trust that if the teacher is teaching a subject, he or she is competent and knowledgeable. Adults also felt that a teacher should present information from a variety of perspectives, not simply his/her own where children wanted someone who would accept more than one "right" answer.

Common characteristics of an effective teacher given by both groups were someone who is caring, enthusiastic, humorous, has an out-going personality, creative, and shares personal experiences or spends time with the individuals. Only a few learners discussed the style of teaching which made the teacher effective--in one case, lecturing. It was clear from the interviews that the teacher need not teach with any particular style

or method. The students learned best from someone who they felt was supportive of them and challenged them to achieve their best.

4. *Describe your ideal (best) learning environment (what would it feel like, look like, etc.).*

Interestingly, children were more likely to wish for computers and new equipment than adults who simply preferred a comfortable chair and climate. Both sets of learners said they wanted an effective teacher and the ability to have interaction with others. Music playing softly in the background seemed to help people learn rather than complete silence, however, nothing too distracting or disruptive. The ideal environment for many included rationale for what was being learned, group work or simulations to understand concepts, and actually “being at” a site or experiencing that about which they were learning. Altogether, the environment was described as positive with freedom to express oneself as an individual.

5. *Describe the characteristics of a teacher who would be the worst for you.*

Here, teaching style was mentioned several times by adults and children, especially lecturing. Students of all ages mentioned lecturing as the worst way for them to learn something by a teacher who they did not like. It is interesting to note that when discussing a teacher he/she did like, this was not an issue. It would appear that it doesn't matter what method is used to teach but rather, the teacher using the method.

Other characteristics of teachers viewed as worst for individuals include one who is mean or punitive, doesn't explain well, wants control over the classroom or individuals, is strict, boring, doesn't give rationale for learning, doesn't listen, and is not flexible or creative. People want time to ask questions, reflect upon what has been

presented, and feel comfortable asking the teacher for help when they don't understand. It was interesting that both adults and children expressed concern with teachers who are rude and disrespectful to students. It was obvious from stories shared that experiences affect an individual for a lifetime, both positively and negatively.

6. *Describe the worst learning environment for you.*

Both adults and children agreed in this area that the worst learning environment for them would be a poorly lit, uncomfortable (furniture and temperature), and out of control classroom. All individuals seemed to agree that the interest level or relevance played a part in their desire to learn a subject and lecturing was the delivery system they seemed to like the least. Always doing the same activities and sitting in the same place for extended periods of time also were factors that make a poor learning environment for individuals.

7. *What is the best way for you to learn new information?*

Children and adults had different responses when asked this question. Children continued to think in the frame of school and responded with hands-on, demonstrations by the teacher, group activities, or seeing concepts presented by the teacher. Adults, however, learned best when they experienced learning through visiting a place, constructing something, or engaged in self-exploration of a topic. Most adults suggested that if they were interested in something, they would read, explore, and learn about a topic; unlike students who looked to the teacher for most of their learning and direction.

8. *Describe a situation where you had to learn something new. How did you go about learning the new information?*

Answers to this question are as varied as any classroom of learners. Responses ranged from direct lecture to visiting places. Many individuals gained information through someone they trusted or an expert in a particular field, while others looked up information on the computer or in the library. Both sets of learners responded that any new skill or concept learned came through much repetition.

Chapter 5

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Specific findings according to the questionnaire administered to the sample population include:

- Children are more interested in technology than adults
- Adults want comfortable climates and furniture
- Humor is important to both sets of learners
- Both sets of learners want content to be relevant to their lives
- Teacher's friendliness/helpfulness increases desire to learn
- Both sets of learners relate most learning to formal settings
- Both sets of learners like direction, not control by the teacher
- Hands-on, practical experiences provided the best long-term learning
- Both sets of learners want a chance to practice skills with someone to guide them if necessary
- Both sets of learners want and need interaction with others when learning
- Both sets of learners learn best in positive environments, not punitive

Results from this study on how individuals learn best and stories of how individuals learned new information were through direct, hands-on activities combined with reading or demonstration. Most said they learned best through a combination of auditory, visual, and kinesthetic learning. The key to learning, in this study, was repetition and practice of a skill individuals perceived as relevant. This supports studies

mentioned earlier about practice being related to learning--even though it is one of the weakest links in most programs.

Many adults and children stated that they learned best when they failed at something but were in an environment where they felt comfortable continuing their learning until they found success. Schank (1995) stated that, "All learning takes place in the context of failure. If you are learning to do something and it does not involve failure, you haven't learned anything. The emphasis in schools is on passing and earning credit or a grade, not necessarily on learning and growth" (p. 47).

Discussion

Knowles' research on adult learning has many points that are true of any learner, regardless of age. When comparing the findings of this study to the assumptions of Knowles, it was determined that the assumptions can be used to describe learners of all ages, not specifically adults. The results confirm that experience does enrich the knowledge individuals can bring to the learning environment, learning concepts should be presented through problem-centered activities, individuals should be allowed to grow as they are ready and individuals should aim toward being self-directed. Children and adults learn in a variety of ways based on where they are at a given point in their lives. At times, all individuals can be self-directed, but results indicate that most people need some form of direction from a teacher to feel comfortable with the learning taking place.

Knowles felt that adults have a richness to bring to the classroom based on their job or life experiences. Children can bring this same experience, while acknowledging it to be more limited in some cases, to a classroom to enhance the learning of others.

Relevancy is a key to helping one understand a concept and a child's experience is just as

useful in explaining or adding to a topic as an adult's. The practice of allowing children to contribute more of their own experiences would also help prepare them for continued learning as adults.

Another assumption of Knowles is that adults learn skills and concepts as needed to fit their lives or jobs. While all individuals should have a similar knowledge base of required information, the author contends that children may be more interested in school if they were given skills specific to the career pathway they think they might pursue. This would give specific skills to children before entering the job market and may help children determine which jobs they might like or not like prior to entering that particular field. Doing this, children would be learning skills as necessary to fit their needs or direction just as adults do on the job. This may be a more useful way for children to learn and lay the groundwork for how we want them to learn as adults.

Why do we think that training adults, either formally or informally, is any different than educating children? Definitely, the discussions based on depth of personal experience is greater with adults, however, each child has an entire history to share with others which could be as useful in a child's setting as in an adult's. It would also prepare and teach children to share with and learn from others. This would provide them opportunities to act and learn as we want them to as adults.

It is the author's opinion that we should be looking at how individuals learn and focusing on what we know will help them individually, not encapsulate all individuals into one methodology or another.

Conclusion

Conclusions which can be drawn from this research include:

- Fundamentally, children's preferences for learning are similar to adults
- Teaching methods utilizing andragogical and/or pedagogical approaches are situational and should be used based on the needs of the learner
- The results of this study neither support nor dismiss Knowles' notion of pedagogy and andragogy serving as two ends of a teaching methods continuum.
- Results from the sample group indicate children's learning preferences favor andragogical approaches rather than pedagogical approaches and children are more concerned with technology and access to it than adults.

Recommendations

After completing the review of the literature and individual research, the author suggests the following recommendations that may be considered for implementation or further study:

- Use more hands-on activities, in combination with theory, so individuals understand the "how" with the "what" of various concepts
- Help learners understand the relevance of concepts being learned--if educators cannot give relevance, they should evaluate why it is being taught
- Help foster the idea that teaching and learning can and does take place outside of the formal educational setting (don't set limits on when and where individuals learn)
- Provide comfortable settings for individuals to learn and grow
- Combine various age groups together for learning to develop an understanding between individuals

- Repeat the study with a larger group of individuals, mainly a greater diversity among the adults as far as educational level, to further recognize similarities and differences between adults and children
- Begin teaching adults and children with those methods we would like them to use throughout their lives

Educational organizations need to support failure as a means to grow and develop as individuals, not view it as lessons that will never be learned. It has often been said that experience is our best teacher and in life, we have many teachers. Why not support what is natural learning instead of constantly trying to force learning situations in which many individuals do not learn?

Throughout the research, learning is described in many ways. The need to continue learning is one of the few constants we have in an ever-changing world. Educators and organizations need to be able to teach individuals how to be life-long learners in order to adapt to the changes occurring today and that will occur in the future. Educators need to be aware of the ways we want adults to learn and reflect this in the teaching methods we use to prepare children for adulthood.

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Appendix A

Questionnaire on Learning

Name _____ Age _____

Educational Level _____

1. Describe the best learning experience you've had outside of school:

2. Describe the best learning experience you've had in school:

3. Describe the characteristics of the teacher who would be best for you:

4. Describe your ideal (best) learning environment: (what would it feel like, look like, etc.)

5. Describe the characteristics of a teacher who would be the worst for you:

6. Describe the worst learning environment for you:

7. What is the best way for you to learn new information?

8. Describe a situation where you had to learn something new. How did you go about learning new information?

Appendix B

Adult's Responses to Questionnaire

Describe the best learning experience you've had outside of school:

Perceptions of others
 Experiencing it (racism)
 Observing others
 Raising a family
 Positive and negative learning
 Experiences of raising a family
 Learning on the job
 Being a teacher, superintendent, and principal
 Working with other who are experts in a field and learning from them
 Traveling around the world, experiencing it--11
 Studying about the country
 Learning from people of other cultures--11
 Being involved in the culture and its happenings-11
 Working with his father
 Working on projects (hands-on)
 Learning work ethic from his father
 Salon management training
 Learning hands-on hairstyling
 Living in another country--11
 Experiencing another culture--11
 Involvement with people in a country--11
 Learning the language from others--11

Describe the best learning experience you've had in school:

A trip to the South with a small group of students
 Learned through a process of interviews, experiences, reading, visiting historical places, feeling and seeing what others had felt or seen in the past
 From a strict teacher who demanded discipline and exactness
 History classes where the teacher had a real interest in the subject and it carried through in the teaching
 Having teachers who were complimentary, helpful, strict but fair
 DECA, Junior Achievement--classes where students were involved through speeches, conferences, seminars, and on-the-job training
 Learning practical information in counseling program
 Seeing other professionals present on areas where they have expertise (not only the professor)
 Experiencing life with his peers
 Learning the different lifestyles of others and having his eyes opened to new experiences through them
 Enthusiastic and caring teachers

Teachers who did not pick favorites
 Actually did what we were asking students to do
 Created dictionaries, plan a party, took care of a child, etc.
 Teacher in MBA program who was not superior, but like students (professional yet approachable)

Describe the characteristics of the teacher who would be best for you:

Teach from both points of view, all issues
 Has passion for the subject
 Allows you to come up with your solutions, not theirs
 Give choices of materials to let you gain knowledge
 Talks in analogies to help you understand
 Humor
 Caring
 Father-figure attitude
 Demands strong work, the best from each student
 Lets you achieve desired goals
 Someone who enjoys the class/subject
 Warm and friendly
 Brings in materials outside of the textbook
 Makes class interesting
 Friendly
 Positive attitude
 Listener
 Open to variable ideas
 Creative
 Knowledgeable in many areas, not just the subject area
 Knowledgeable
 Friendly
 Varies teaching styles
 Listens
 Easy-going
 Active/energetic
 Funny-11
 Smart
 Kind
 Flamboyant
 Enthusiastic
 Caring-11
 Patient
 Understanding
 Open minded
 Fun
 Hard-working
 Creative

Flexible
 Vision
 Insightful
 Knowledgeable
 Practical
 Creative
 Humor
 Good person/role-model

Describe your ideal learning environment: (what would it feel like, look like, etc.)

Home
 No phone
 Candles burning
 Jazz, classical, or environmental music
 Some noise, not silence
 Table & chairs (not a sofa or bed)
 Air conditioning
 Comfortable chair
 Water
 Highly motivated teacher
 Warm and comforting
 Feel relaxed and wanted to be there
 Where you look forward to going and participating in class
 Small classes
 intelligent fellow students
 availability of learning materials/resources--11
 Private
 Quiet--111
 Computer available
 Phone
 Desk
 Good light--11
 files
 comfortable chair
 Minimal interruptions
 Small classroom
 Group discussion
 breaks
 comfortable chairs with tables--111
 windows--11
 Variety of styles
 Keep moving and doing something
 Cool
 comfortable--11
 inviting atmosphere

Open
 Experimental
 Blue
 Clean
 Big tables--11
 lots of equipment/resources--111
 Movies to describe materials
 Enthusiastic teacher
 Being in a place (city, building)
 Familiar setting
 Library

Describe the characteristics of a teacher who would be the worst for you:

Only presents one side of an issue
 Makes others think the same way he/she does
 Puts him/herself on a different level than the students
 Talks down to the students
 Discussion doesn't occur
 Not creative--111
 Rigid--11
 Gives facts, doesn't discuss information or give time for questions and reflection of material presented
 Interrupts students with their own knowledge or stories
 "Someone who hands out a worksheet and then tells me to read the book and fill in the blanks!"
 Strictly information oriented
 Sticks only to the text, no outside information--111
 Not outgoing--11
 Lecture only--111
 Self-centered
 No opportunity for class participation
 Lazy
 Not knowledgeable on subject--111
 Ridicules students, rude--11
 Non-flexible--11
 Not current with information
 Monotone voice
 Contradicts him/herself
 Cold
 Short
 Quiet
 Judgmental person
 Little patience
 Uncaring
 Non-enthusiastic--111

Doesn't relate to a variety of individuals
 Loud
 Strict
 Not giving feedback on work or grading homework
 Doesn't provide practical information

Describe the worst learning environment for you:

Many distractions--111
 loud--1111
 Sitting in the back of a classroom
 Others disrupting and being disrespectful
 Having no interest in the subject
 Poor light
 climate (too hot, cold, poor ventilation)--1111
 No control over class--11
 Boring-11
 Lecture--11
 Small crowded rooms--1111
 large lecture halls--11
 Uncomfortable chairs

What is the best way for you to learn new information?

Explore the actual place
 Experience it (feel it, see it, hear it, smell it)
 Read about a topic, read book reviews to get differing views on a topic
 Reading, taking notes, and reviewing notes
 Visual presentations helpful
 Repetition
 Finding a way to make information relevant to him
 Personal pursuit through TV, books, listening to others, research, paying attention to everyday life situations
 Self-learning
 Classroom experience with group activities
 Combination of visual and auditory
 Taking part in practical exercises/groups
 Taking notes
 Self-exploration and guided learning
 Hands-on with good instructions
 Visit with others about their experiences
 Speakers with visual presentations while taking notes
 Outlines with notes to help guide and recollect at other times when information is needed
 Reading, interviewing, experimenting

Describe a situation where you had to learn something new. How did you go about learning the new information?

Leadership Class--Read and absorb the new material then apply it to something in his life
 Computer--Unlearn old ways from the typewriter, replace them with new ways, then through lots of practice and continual learning (trial and error), asking questions of others who are more knowledgeable on computers, took classes offered through agencies

Simple repetition

Learning school law, finance, and administration--Original knowledge base came from books and discussion in college, but learned most in life occupations by practicing and experiencing situations on the job

Took a class, research on own, read a book, magazine or newspaper, asked someone

Developmental guidance program--Read about it, teacher talked about it, created a project and presented different parts, took notes and reviewed them

Phone calls and talking to people that have had the experience

Computer--Took a class, one-on-one help from husband, trial and error "Making mistakes is the best way to learn something really well."

Computer program--Someone showed her, experimented on her own, asked questions when she needed help

Learning PC--Read manuals, looked it up on the internet, called technical support, getting frustrated helped him to learn, helped that he had a specific problem to solve

Appendix C

Children's Responses to Questionnaire

Describe the best learning experience you've had outside of school:

Being with my grandpa, he teaches me things
 Going outside of class and selling ads for the yearbook
 Meeting and interacting with other people
 Experiences (any) outside of school because she is always learning something new
 Learning to race a sprint car, taught by drivers
 Hunting with my dad, he taught me, learned about the animals and their habitats
 Learning to play softball
 Putting together a computer
 Working and getting paid
 Pitching for softball, coach explained and showed different techniques and asked to replicate it

Describe the best learning experience you've had in school:

My own decisions about what to learn
 Own topic
 Created a project
 Wrestling, set goals for self
 People being helpful in learning situations
 Working out problems between friends and girlfriends
 Learning to work successfully with my peers to sell advertisements for our school yearbook
 Learning to draw characters-teacher showed step by step and patient with student
 PE--learned how to climb a rope
 Learned under a tree--content not remembered
 Math and computers
 Learning the keyboard and computer
 Physics--teacher explains and then students complete labs to understand material

Describe the characteristics of the teacher who would be best for you:

Gives deadlines, not specific time to do the material (20 minute limit)

Easy-going

Not too strict--11

Allows food and drink

Nice

Helpful

Lets me have my space (be himself)

Thinks I have a brain

Her way isn't always the best way

Motivated

Kind-11

Caring

Considerate

Answers questions without making me feel dumb

Be willing to help students with problems outside of the classroom

Explain the subject and show it

Treat everyone with respect, not just the ones who get good grades

I know about what they enjoy

Friendly

Humor

Talks to me

Spends time with me

Gives many chances to succeed, feel comfortable failing

Fun-111

Do hands on experiments

Not too strict but not completely laid back

Teach through repetition

Not moving too fast

Nice

Don't care (laid back)

Don't get mad

Interesting

Lectures

Describe your ideal (best) learning environment (what would it feel like, look like, etc.):

Available resources

Teaches how to get along with others

Simulate different historical events (like they are there)

Well lit

Comfortable furniture

Many books

TV/VCR

Would look like school

Feel "nice"

Look "good"

Music

Friends

Look like a fun place, not an office

Colorful

Quiet

Access to the latest technology and books

Relaxing

Cushioned seats

Light music

New books

Computers

Teachers who are friendly

Subjects that interest student

Like a military base, uniforms, training exercises with training equipment

Outside

Fun

Group work

Dissect learning

Fun, with games

Comfortable seats

Small area with not many people

Apply what was learned

Serious about learning, no goofing around

Describe the characteristics of a teacher who would be the worst for you:

Gives topics to the students and they have no interest or see no relevance
 Doesn't give rationale for learning information
 Only lectures, watches videos, and takes notes
 Doesn't listen
 Uptight
 Not easy to get along with
 Set way of doing things
 No interaction with classmates (doesn't let students)
 Not understanding
 Doesn't answer questions
 Doesn't know how to help students when they need help
 Yells or punishes students
 "Not nice to me"
 Reputation for being mean
 Boring
 Lectures the whole time
 Strict
 Moves too quickly
 Not open to suggestions
 Mean
 Strict
 Smoker
 No control over the class
 Just gives reading assignments to gather new information
 Up tight
 Don't assume the students should know something

Describe the worst learning environment for you:

Dim
 Boring
 Quiet
 No interaction with others
 Dim lighting
 Only lecture
 Talks too much
 Can't control the class
 Loud
 Distractions from others in the hall or other rooms
 Quiet
 No talking
 Sticking with the same subject
 Doing punishing work (writing, cleaning the board or desks)
 Sitting and writing all day

Moving too quickly
 Only done the teacher's way
 Uncomfortable seats
 Not serious about learning (students or teacher)

What is the best way for you to learn new information?

Visually
 Reading
 Hands on--111
 Taught the lesson by the teacher
 Not reading or writing
 Doing something, not just listening to a lecture
 Discuss and ask questions about the material
 Teacher explains and then shows us how to do it
 Not having time constraints
 Explaining material and then letting me do it
 Demonstrate it
 Making it fun
 Group work
 Hear it and then put it to use

Describe a situation where you had to learn something new. How did you go about learning the new information?

Visually and hands-on (wrestling)
 Demonstrations, one-on-one assistance
 Field trips
 Read about it and then practiced-CPR and first aid
 Jour Workshop Class-Learned to take criticism from peers and work with them more effectively (through experiences, difficulties, successes)
 Personal help from the teacher, reading and making models of the theories
 Through examples, explanation, and repetition-independent work
 Repetition
 Break information down into parts and then put it together slowly
 Followed instructions
 Watching someone else and then practice, practice, practice